IN THE CLAIMS:

Please amend Claims 1-7, and 9-15 as follows.

1. (Currently Amended) An image processor comprising:

means for embedding in image data ~~an~~ a digital watermark comprising an

irrotationally symmetric pattern arrangement ~~including~~ and position and rotation

information; ~~information, using an irrotationally symmetric pattern arrangement~~

rotation information searching means for performing processing for extracting said

rotation information from the image data with said digital watermark information

embedded therein, for a plurality of rotation angles different from one another;

position information searching means for performing processing for extracting said

position information from said image data, for a plurality of start-of-extraction positions

different from one another;

calculating means for calculating confidence coefficients indicating the accuracy

with which said position and rotation information is extracted, for each information

searched by said rotation information searching means and position information searching

means and extracted as position and rotation information; and

determining means for determining the position and rotation angle at which said

digital watermark information is embedded in said image data, based on the confidence

coefficient calculated by said calculating means.

2. (Currently Amended) The image processor according to claim 1,

wherein said irrotationally symmetric pattern arrangement is a two-dimensional

matrix comprising ~~constituted by~~ mxn elements.

3. (Currently Amended) The image processor according to claim 1,

wherein said irrotationally symmetric pattern arrangement is a pattern arrangement for which the positive or negative symbols of ~~each~~ corresponding elements are not wholly the same if the patten arrangement is rotated at an arbitrary angle, except ~~(except~~ for angles of 360 degrees multiplied by an integer number ~~number)~~.

4. (Currently Amended) An image processor capable of extracting digital watermark information from image data in which said digital watermark information including position and rotation information is embedded, comprising:

rotation information searching means for performing processing for extracting said rotation information from the image data with said digital watermark information embedded therein, for a plurality of rotation angles different from one another;

position information searching means for performing processing for extracting said position information from said image data, for a plurality of start-of-extraction positions different from one another;

calculating means for calculating confidence coefficients indicating the accuracy with which ~~as to whether~~ said position and rotation information is extracted, for each information searched by said rotation information searching means and position information searching means and extracted as position and rotation information; and

determining means for determining the position and rotation angle at which said digital watermark information is embedded in said image data, based on the confidence coefficient calculated by said calculating means.

5. (Currently Amended) The image processor according to claim 4,

wherein said digital watermark information includes said position information and rotation information and usage information, and

<u>wherein</u> said usage information includes the ID of a device or the user ID.

6. (Currently Amended) The image processor according to claim 4,

wherein said digital watermark information includes said position information and rotation information and usage information, and

<u>wherein</u> said usage information includes information for controlling a device.

7. (Currently Amended) The image processor according to claim 4,

wherein said calculating means calculates confidence coefficients by performing computation of said image data with a matrix <u>comprising</u> ~~constituted by~~ mxn coefficients.

8. (Original) The image processor according to claim 7,

wherein said matrix computation processing is convolution computation.

9. (Currently Amended) The image processor according to claim 4, further comprising:

extracting means for extracting the digital watermark information embedded in said image data, based on ~~the~~ <u>its</u> position in said image data on the basis of the result of determination by said determining means.

10. (Currently Amended) An image processing method <u>comprising:</u>

<u>an embedding step</u> of embedding in ~~an~~ image <u>data</u> digital watermark information <u>comprising an irrotationally symmetric pattern arrangement, and</u> including position and rotation <u>information;</u> ~~information, using an irrotationally symmetric pattern arrangement~~

<u>a rotation information searching step for performing processing for extracting the rotation information from the image data with the digital watermark information embedded therein, for a plurality of rotation angles different from one another;</u>

<u>a position information searching step for performing processing for extracting the position information from the image data, for a plurality of start-of-extraction positions different from one another;</u>

<u>a calculating step for calculating confidence coefficients indicating the accuracy with which the position and rotation information is extracted, for each information searched by said rotation information searching step and said position information searching step and extracted as position and rotation information; and</u>

<u>a determining step for determining the position and rotation angle at which the digital watermark information is embedded in the image data, based on the confidence coefficient calculated by said calculating step.</u>

11. (Currently Amended) An image processing method of extracting digital watermark information from image data in which ~~said~~ <u>the</u> digital watermark information including position and rotation information is embedded, comprising:

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a rotation information searching step of performing processing for extracting ~~said~~ the rotation information from the image data with ~~said~~ the digital watermark information embedded therein, for a plurality of rotation angles different from one another;

a position information searching step of performing processing for extracting ~~said~~ the position information from ~~said~~ the image data, for a plurality of start-of-extraction positions different from one another;

a calculating step of calculating confidence coefficients indicating the accuracy with which ~~as to whether~~ ~~said~~ the position and rotation information is extracted, for each information searched in said rotation information searching step and position information searching step and extracted as position and rotation information; and

a determining step of determining the position and rotation angle at which ~~said~~ the digital watermark information is embedded in ~~said~~ the image data, based on the confidence coefficient calculated in said calculating step.

12. (Currently Amended) A computer program product embodying a program comprising:

program codes for implementing an image processing method of embedding in ~~an~~ image data, digital watermark information comprising an irrotationally symmetric pattern arrangement ~~including~~ and position and rotation information; ~~information, using an~~ ~~irrotationally symmetric pattern arrangement~~

program codes for a rotation information searching step for performing processing for extracting the rotation information from the image data with the digital watermark information embedded therein, for a plurality of rotation angles different from one another;

program codes for a position information searching step for performing processing

for extracting the position information from the image data, for a plurality of start-of-

extraction positions different from one another;

program codes for a calculating step for calculating confidence coefficients

indicating the accuracy with which the position and rotation information is extracted, for

each information searched by the rotation information searching step and position

information searching step and extracted as position and rotation information; and

program codes for a determining step for determining the position and rotation

angle at which the digital watermark information is embedded in the image data, based on

the confidence coefficient calculated by said calculating step.

13. (Currently Amended) A computer program product embodying a program for

implementing an image processing method of extracting digital watermark information

from image data in which said digital watermark information including position and

rotation information is embedded,

the program comprising:

program codes for a rotation information searching step of performing processing

for extracting said the rotation information from the image data with said the digital

watermark information embedded therein, for a plurality of rotation angles different from

one another;

program codes for a position information searching step of performing processing

for extracting said the position information from said the image data, for a plurality of

start-of-extraction positions different from one another;

program codes for a calculating step of calculating confidence coefficients

indicating the accuracy with which ~~as to whether said~~ the position and rotation information

is extracted, for each information searched in ~~said~~ the rotation information searching step

and position information searching step and extracted as position and rotation information;

and

program codes for a determining step of determining the position and rotation angle

at which ~~said~~ the digital watermark information is embedded in ~~said~~ the image data, based

on the confidence coefficient calculated in ~~said~~ the calculating step.

14. (Currently Amended) A computer data signal embodied in a propagating wave

comprising: ~~and used~~

code signals for use in implementing an image processing method of embedding in

~~an~~ image data, digital watermark information comprising an irrotationally symmetric

pattern arrangement ~~including~~ and position and rotation information; ~~information, using an~~

~~irrotationally symmetric pattern arrangement~~

code signals for use in a rotation information searching step for performing

processing for extracting the rotation information from the image data with the digital

watermark information embedded therein, for a plurality of rotation angles different from

one another;

code signals for use in a position information searching step for performing

processing for extracting the position information from the image data, for a plurality of

start-of-extraction positions different from one another;

code signals for use in a calculating step for calculating confidence coefficients indicating the accuracy with which the position and rotation information is extracted, for each information searched by the rotation information searching step and the position information searching step and extracted as position and rotation information; and

code signals for use in a determining step for determining the position and rotation angle at which the digital watermark information is embedded in the image data, based on the confidence coefficient calculated by the calculating step.

15. (Currently Amended) A computer data signal embodied in a propagating wave and used for implementing an image processing method of extracting digital watermark information from image data in which ~~said~~ the digital watermark information including position and rotation information is embedded comprising:

code signals for use in a rotation information searching step of performing processing for extracting ~~said~~ the rotation information from the image data with ~~said~~ the digital watermark information embedded therein, for a plurality of rotation angles different from one another;

code signals for use in a position information searching step of performing processing for extracting ~~said~~ the position information from ~~said~~ the image data, for a plurality of start-of-extraction positions different from one another;

code signals for use in a calculating step of calculating confidence coefficients indicating the accuracy with which ~~as to whether said~~ the position and rotation information is extracted, for each information searched in ~~said~~ the rotation information searching step

and the position information searching step and extracted as position and rotation information; and

code signals for use in a determining step of determining the position and rotation angle at which said the digital watermark information is embedded in said the image data, based on the confidence coefficient calculated in said the calculating step.